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SUGHRUE, MION ZINN MACPEAK & SEAS PLLC				
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WASHINGTON, DC 200373213				
EXAMINER				
GHULAMALI, QUTBUDDIN				
ART UNIT		PAPER NUMBER		
2631		15		

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/429,026

Applicant(s)

DARTOIS, LUC

Examiner

Qutub Ghulamali

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 8-12, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 3-7 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. This office action is responsive to the amendment filed on 12/23/2003.
2. Applicant's arguments, see page 5, filed 12/23/2003, with respect to the rejection(s) of claim(s) 1-10, 12-15 and claim 11 under 35 USC 102 and 35 USC 103 respectively, have been fully considered and Finality of Action has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made necessitated by; Amendments to Claims 1,2,6,7,10,11.

The rejection (s) based on newly discovered art follows.

#### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 9, 10 rejected under 35 U.S.C. 102(b) as being anticipated by Andrews (US Patent No. 4,890,300).
5. Consider claims 1, 9, 10, Andrews teaches a radio transmitter include a plurality of pre-distortion circuits 8, 10, 12, (figs. 1, 4), to establish distortion characteristics due to intermodulation products over a wide frequency range of the input signal, in order to derive amplitude and phase information for a plurality of input sample frequencies, the outputs of all three pre-distortion circuits are connected to an input of a power amplifier 20, the output of the power amplifier is connected to an antenna 22 for transmission (see col. 1, lines 47-65; col. 2, lines 40-56; col. 3, lines 28-37; col. 6, lines 20-27; col. 8, lines 22-32).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 8, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews (US Patent No. 4,890,300) in view of English (US Patent 5,489,879).

Regarding claims 2, 8 and 12, while Andrews discloses distortion circuits 8, 10, 12, (figs. 1, 4), to establish distortion characteristics due to intermodulation products over a wide frequency range of the input signal, in order to derive amplitude and phase information for a plurality of input sample frequencies, the outputs of all three pre-distortion circuits are connected to an input of a power amplifier 20, he does not specify a look-up table for providing frequency dependent predistortions. English discloses a calibration device 34 collects (stores) magnitude and phase values for each frequency sample point in the frequency band of interest, calibration device 34 builds a complex number array MEASURED representing the actual subcarrier produced following frequency-dependent distortion in the subcarrier generator 30, once the array MEASURED is filled with samples, thereby providing representation of the shape and center frequency for subcarrier signal 32 operating under the ideal FIR coefficients, the degree of distortion in signal 32 is computed (see col. 5, lines 1-60). It would have been obvious to one of ordinary skill in the art at the time of the invention to include a storing unit for look-up of the magnitude and phase of the input signal in order to minimize distortion as taught by English.

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8. Claims 11, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews in view of Fuhrmann et al ("Fuhrmann") (US Patent 5,991,308).

Regarding claims 11, 14 and 15, Andrews disclose all the elements as described above, but do not specify transmitter comprise a coherent receiver transmitting CDMA signals. Fuhrmann discloses a SCDMA transceiver (fig. 19) comprise a coherent receiver wherein the signal is input to the RU transmitter modulator 410 so that its signals will be coherent to the CU receiver (col. 51, lines 35-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to include a coherent receiver within transmitter to transmit CDMA signals having magnitude and phase in order provide greater system flexibility with the transmission and reception and to minimize distortion as taught by Fuhrmann.

#### ***Allowable Subject Matter***

9. Claims 3-7, 13, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stonick et al (US Patent 5,900,778), Kenington et al (US Patent 5,334,946), Kolanek (US Patent 6,147,553) are cited as arts of reference.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (703) 305-7868.

The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on 703 306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QG.

February 19, 2004

  
JEAN B. CORRIELUS  
PRIMARY EXAMINER

2/14/04